Cenotes

The cenotes are really huge
deep pools of water at
the bottom of — Most people
I spoke to seem to be
under the impression
that they are a measure
due to the sacrificial practices
of the Mayans — a measure
that they are pretty well
correct by purely natural forces
from the ancient limestone
substrate of the landscape and
the pools of water [illegible]
for generally much deeper
than we saw the presence

here of a great settlement of the many a hopes. Mr Sedgwick history of these walls & other so forlorn, ——— ——

This history I cannot overlook is equally clear though not a word of it is to be found in any human record.

(6) Caves (a)

The caves weathers first by the
action of water and acids along water
courses or channels, secondly the
falling in through gravity & decay
of masses of the rock stone, third
by disintegration of the particles
larger or small.. The first in
the earliest stage from the incep-
tion to the cessation of water in-
fluence; the second is active after
the caverns spaces have acquired
considerable dimensions, proportion-
ate to the thickness, fractures and
fracture dimensions of the rock &
thereby
increases with the horizontal
extension of the cavity and practically

cease when the walls ~~become~~ reach
a high angle; ~~the~~ Third
of the falling
masses are large and frequently
the disintegrating forces may fail
to remove them and a conical
mound is formed on the earlier
floor and if the water
action is weakened or ceases
the cavern becomes filled up;
Then the soft, friable limestones
are naturally subject to disintegration
under sub aerial influence, mainly
* vegetation, heat &c and when
the surface is bared from beneath
the work of weathering the walls
goes on very rapidly by this

Circle ©

millions of the walls, causing
to break down in large masses
gradually weather smooth and
to become uniform surface
and circular in outline. of the
third class are all the agencies
that act to carry the walls out
beyond the vertical and beginning
at the top reduce the slopes until
the opening, if the walls attain
below to meet, become conical
and gradually fills up.

Irregularities in rectangular fine
varied results of surface sculpture
and all varieties of shading
and tones, of pockets and protuberances
are seen.

Centres of
Agencies for and against Symmetry

The symmetry is often wonderful, being so nearly circular that the eye fails to detect marked irregularities but again the entrance will be oblique & the outline & surface for from regular

The latter characters may result from various causes as irregularity in texture & position of strata, course of water flow etc,

There is a tendency to conformation all the active forces, however and age tends to increase symmetry especially as the 3rd class

Canada (E)

of reducing species attack fre-
-dating forms with thread
roots,

Level grounds

Get R.R. levels - for elevation
above sea, water
of high level

In some cases it is appa-
-rent that the basin is sealed
below and receives its supply of
water from the surface during
the wet season but others are
doubtless connected with underflow
drainage which by open
channel or seepage tends
to keep the water at much
the same level. Stumps
must dripping.

Cerralvo (6)
Natural

The water supply of the ancient Maxcanas differed in the character of the natural from Chichen Itza. There are here no cenotes proper but a chain of shallow basins which now contain pools of water during most of the year. Evaporation accounts for the accumulation of vegetable matter and other stagnation.

Fifty Cenotes East of Merida

Cenotes in Merida with baths, clean cool and nice

Do wells always yield at reasonable depth.

1
2
3
4
5

The Sacred Grove

Jan 19

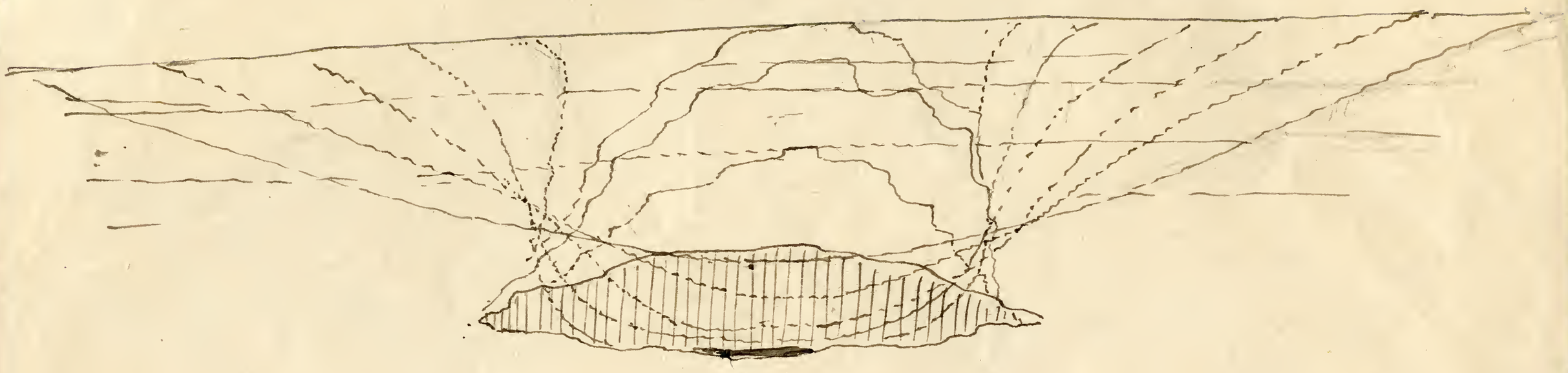
Geology of the Chuchem district

From the summit of that grand old Shuchem the castles of Chuchem a wonderful view is spread out before us, a vast expanse of forest as level as a billowy sea with hungry as peaceful as the ocean seen from a ship. There is absolutely nothing in sight but the sky and the autumn tinted forest fading off on all directions while G owned the hungry land. The only feature aside from the vegetation is the glimpses of ruins peeping up here and there about our feet.

Such a country would seem to have little for the geologist. Go down to the jungles that beset us on every hand & follow the travels in any direction, the rocks are exposed nowhere, the same grassed, broken limestone

above rising in humps & ridges from the general level, now sinking a little below it. The greatest elevations are the round hills, and the only notable depressions are the Swales and marks showing the course of underground rivers.

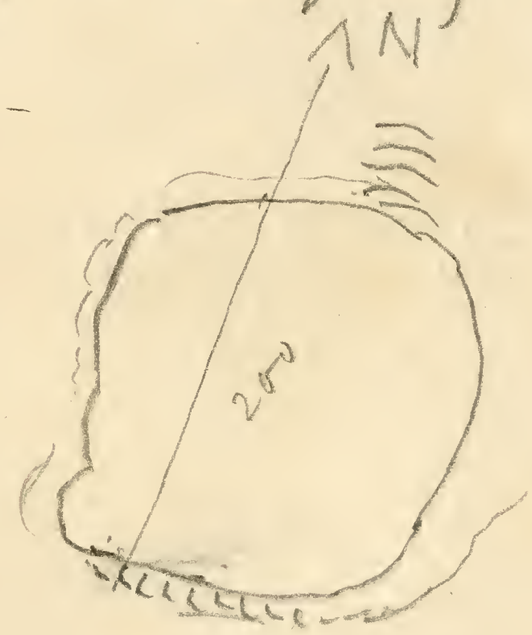
The rocks afford the best means of studying the rocks and the four great examples in and about Chicago furnish most interesting



when the surface is
reached progress is accelerated
by vegetation, acids & roots. Then
later as slopes decrease progress
is retarded..

The great Devils Cauldron
Cuvette Grande

This is the greatest of all the Devils of the region containing deep its cupaceous basin a body of water covered to be sure with a dense coppery scum of floating particles but of sufficient strength to drink with safety. The depth is 75 or 80 ft estimated. The pool, an irregular subrectangle 200 ft across, is some 200 ft across. The walls rise from the water vertically or slightly overhanging for nearly

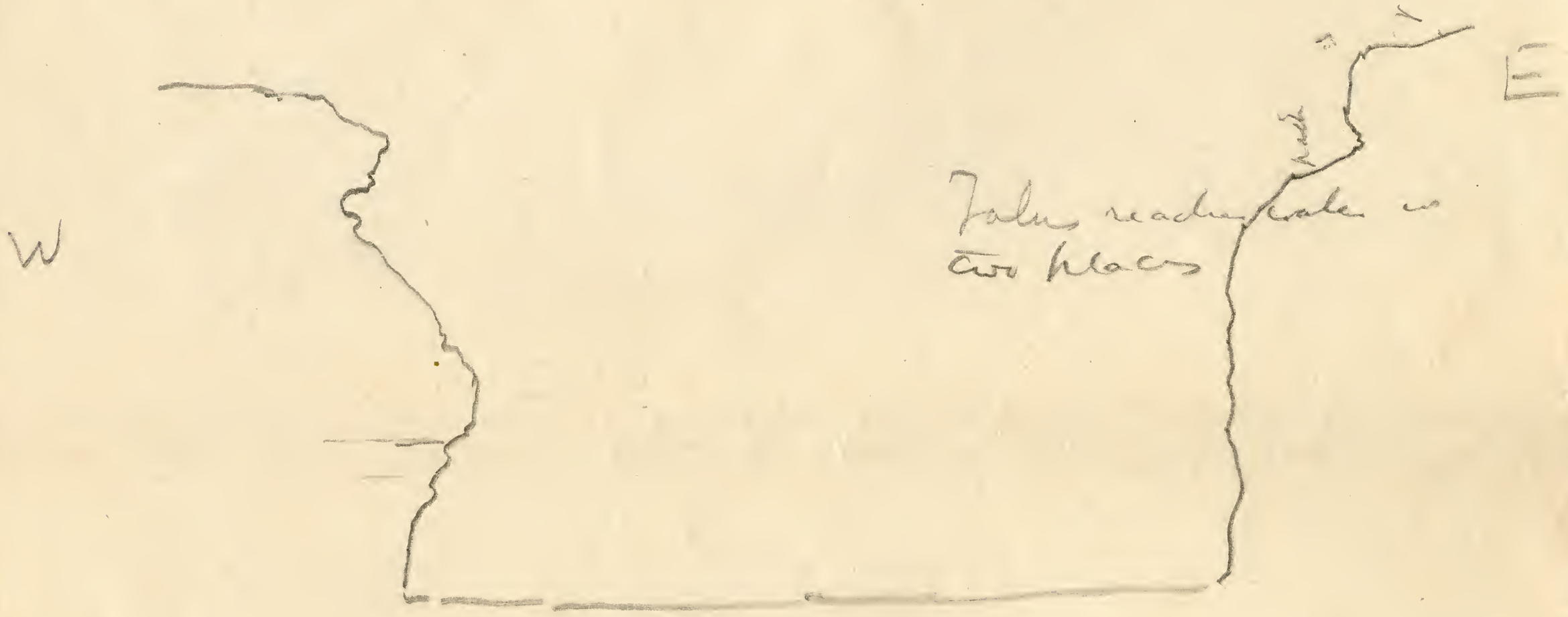


at one point near the upper corner of the basin on the east the vertical wall reaches some 50 or 60 ft in air

forty feet being broken down in two places one at the S.W. affording a narrow sandy path from the sloped floor above to the recess at the west margin, above

which is a break in the steep wall some 40 ft in width down which it might be possible for a

man to work his way above the stone walled floor
the slopes recede steeply to
the upper ledges which surround most of the
court and are abrupt or overhanging with
pockets & recesses for 20 or 30 ft



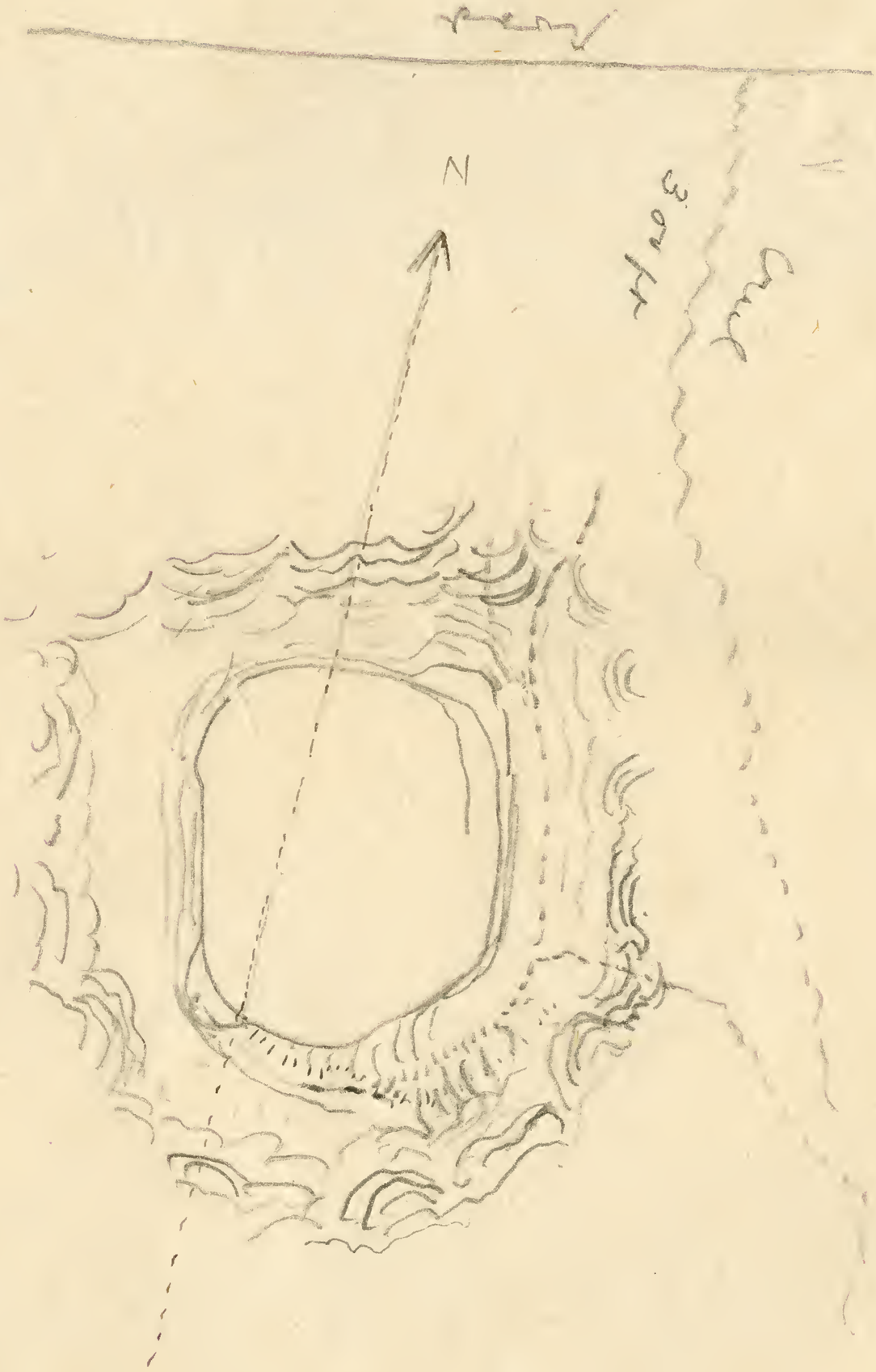
The rocks are heavy bedded are massive, and
strongly surfaced the bedding being well marked at several
levels and there are several holes & recesses. Some now undercut
at the ends of the descending paths about from 30 to
40 ft. the being most curious & it is contended
that these are probably the mouths of tunnels
formerly leading to other dwellings.

about the mounds of the tunnel like openings by the path ⅓ way up the rock is exposed massive and weathers with a rough surface, so knobby & gnarled + cellular as soft & crumbly in places that the scale of inhomogeneous mass is not suggested, but hands go in hier & at once the true texture is seen. a light warm gray limestone worked with great ease & wonderfully homogeneous

Higher up there are beds that weather out in nodular form the surface suggesting a sandy shale or breccia But fresh fracture discloses a fine compact rock the nodules very harder and indeed quite chert

Fuller examination of the outcrops indicate that most of the rocks are homogeneous fine grained + workable the gnarled discolored surfaces being deceptive

There is little.

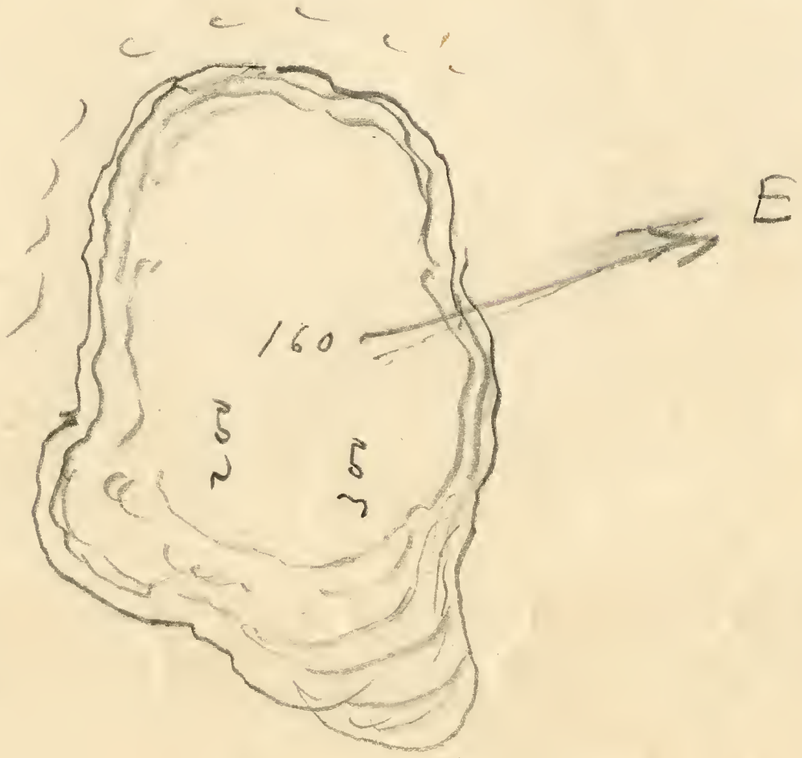


Cerro Grande
Jan 18th

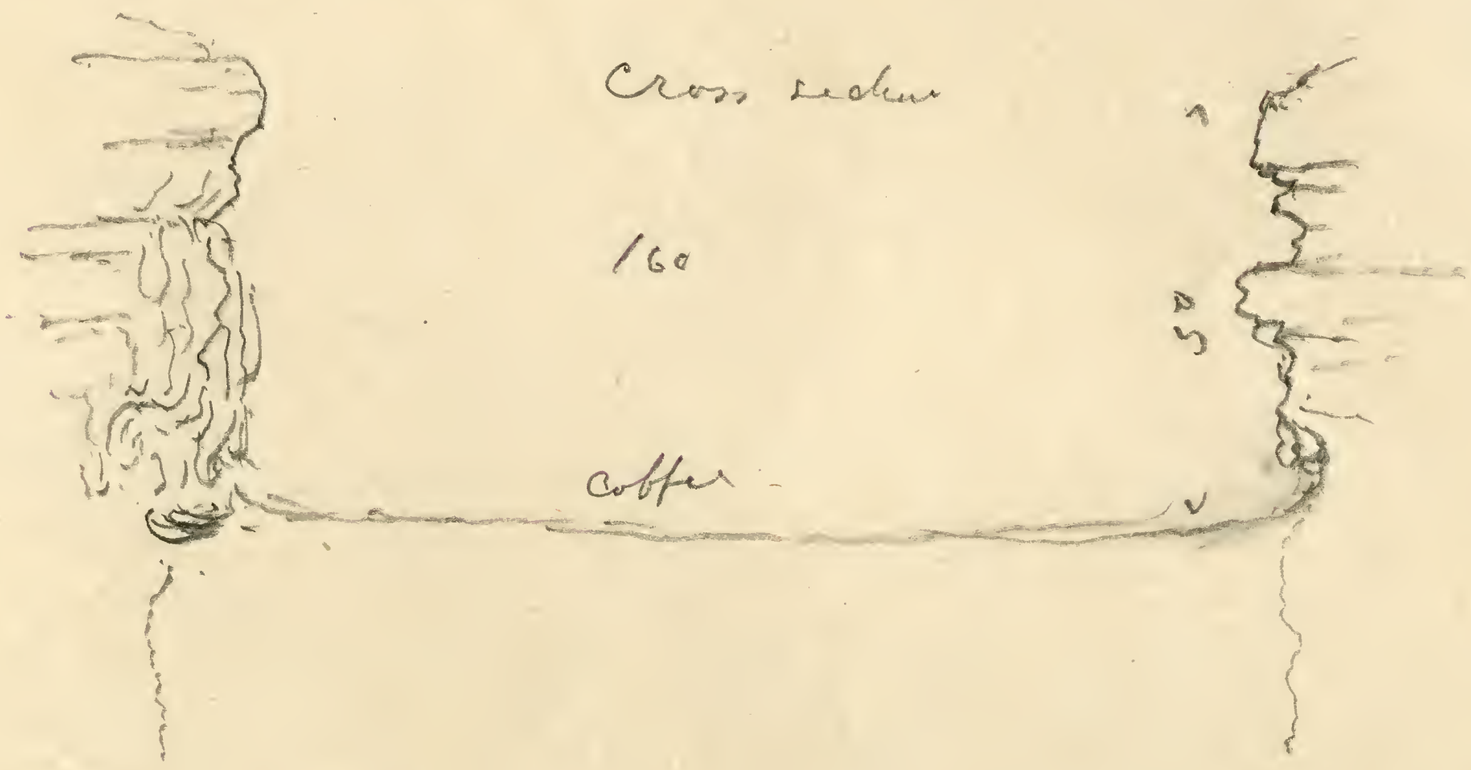
Coffee Jal Sample 1 Jan 18th 95

1 1/2 mile East of the Ranchero

There is a great sink hole in occurs in the
andesite of a flood the surface of which is nearly
level and has the usual limestone surface
It is about 60 feet deep and is oblong. the width bay



about 160 ft, the length 200 ft the mouth, and walls
the sloping narrow entrance about 300 ft



See photo
mills Laugh

The strata exposed are bedded limestone somewhat massive and especially heavy bedded and compact above over most of the surface erosion & chemical action has altered the surface & the rock to some depth and on the west side where there is dripping from the middle of the wall the whole surface is Covered with thick masses of deposit which takes the form of stalagmite hanging in rough conical, or cones fluted masses with cauliflower surface

There are numerous recesses & shelving masses some are amphitheatre shaped & the front part and the whole portion with the foliage & tall trees some embracing the wall together with the veil of pendant roots and the glimpses of sky above give a striking effect. The wind rustles the trees above but below all is cool & quiet At the left on descending the incline is a great recess, 100 ft long & 30 ft deep with a brawling brook flowing as a record by all dwellers & Comers on the rock

Coffee Creole 3.

Broad roof arches bade showing a symmetrical arrangement of the shades

Front trees grow from the floor & run through transverse
two planks a coffee plantation

Some fallen leaves

The Spring is under the arches of shade
Malaguite & several feet below the general
level

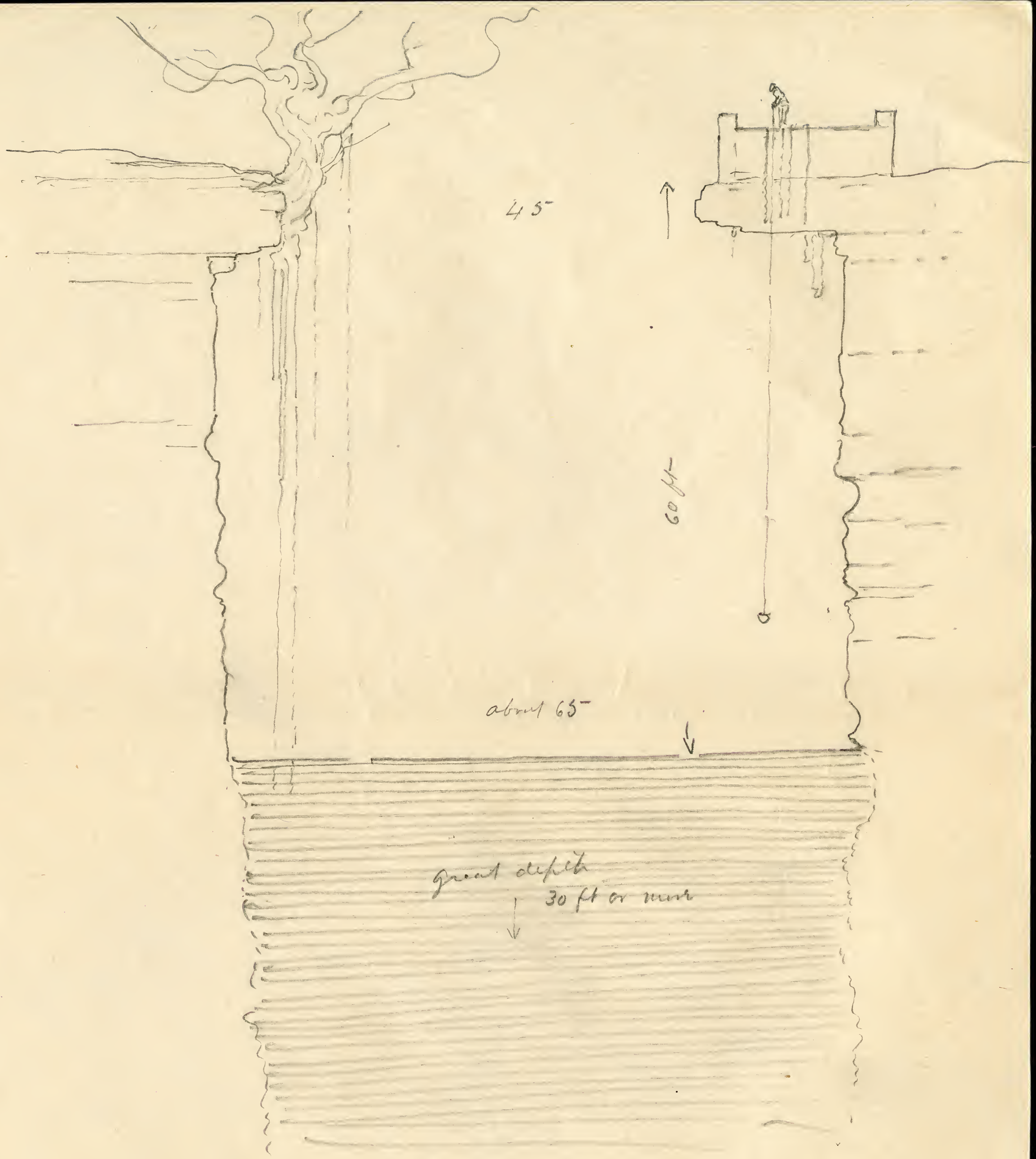
Drooping is strong on cloudy days in this dry
season

Mamma.
Cacao
Cedar
Bejucos plant with pendent fullants SOH
Alamo with multiple trunks & roots one very
large is 6 ft thick.

Jan 18th 95 Semeli Well. 1/2 miles SS.W of Randa

This gigantic well like cavity is a marvel of the kind the circular pit being about 55 ft in diameter and 40 ft deep to the water. The mouth is circular and surrounded by overhanging rocks 6 to 8 ft thick in ledges. Expanding below may best the even wall descends almost vertically and in one part nearly circular shaft looking like a massive pillar of masonry. Two splendid trees grow on opposite margins the short tapering trunks densely matted spreading crowns above & blue roots hanging in long lines to the dark blue water below. The water is deep and clear & a stone thrown over into the middle can be seen descending for several seconds with phosphorescent light

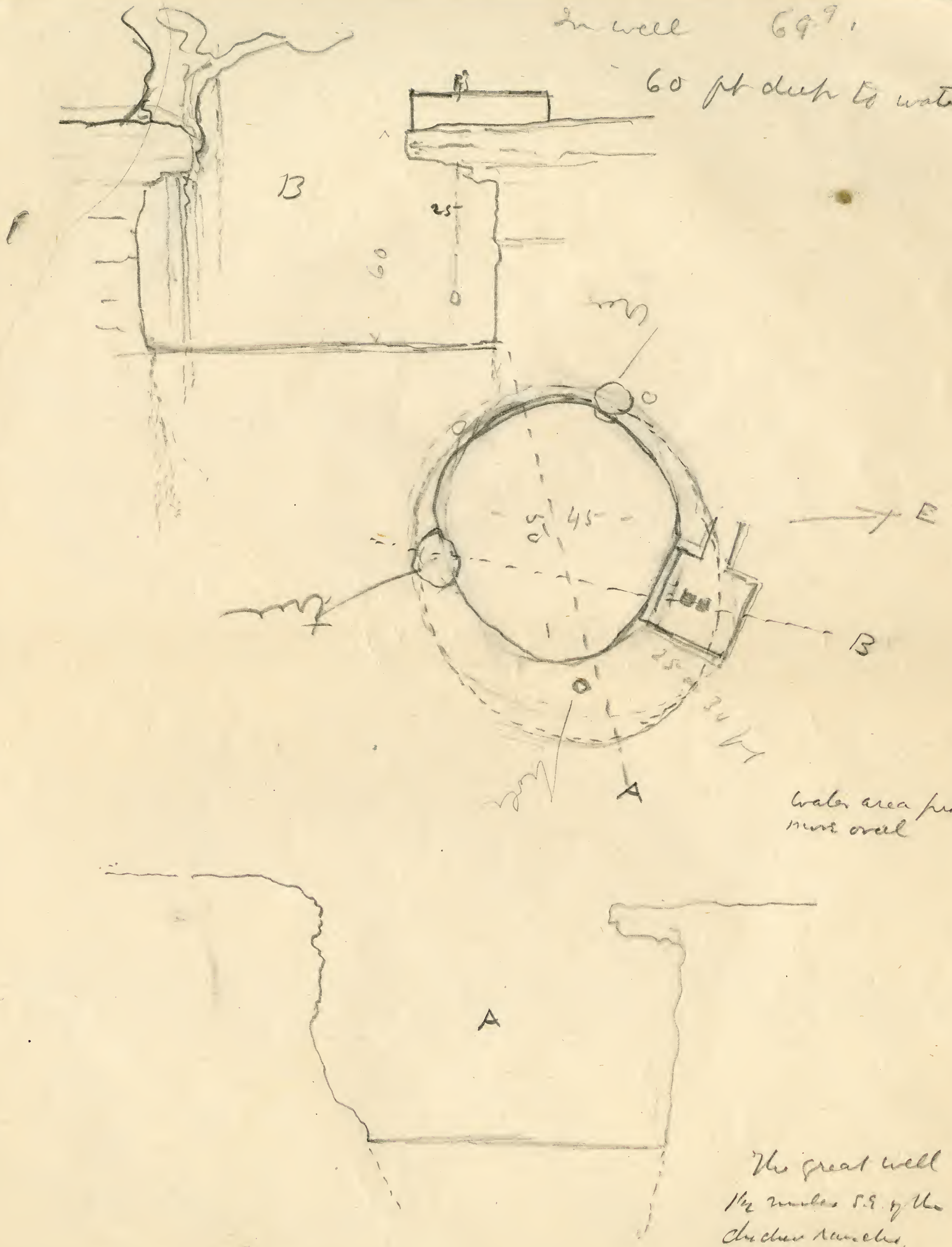
A staircase building was overhangs the east margin where a windlass pump was arranged



Section of great well 1½ miles S.S. of Chatham Branch

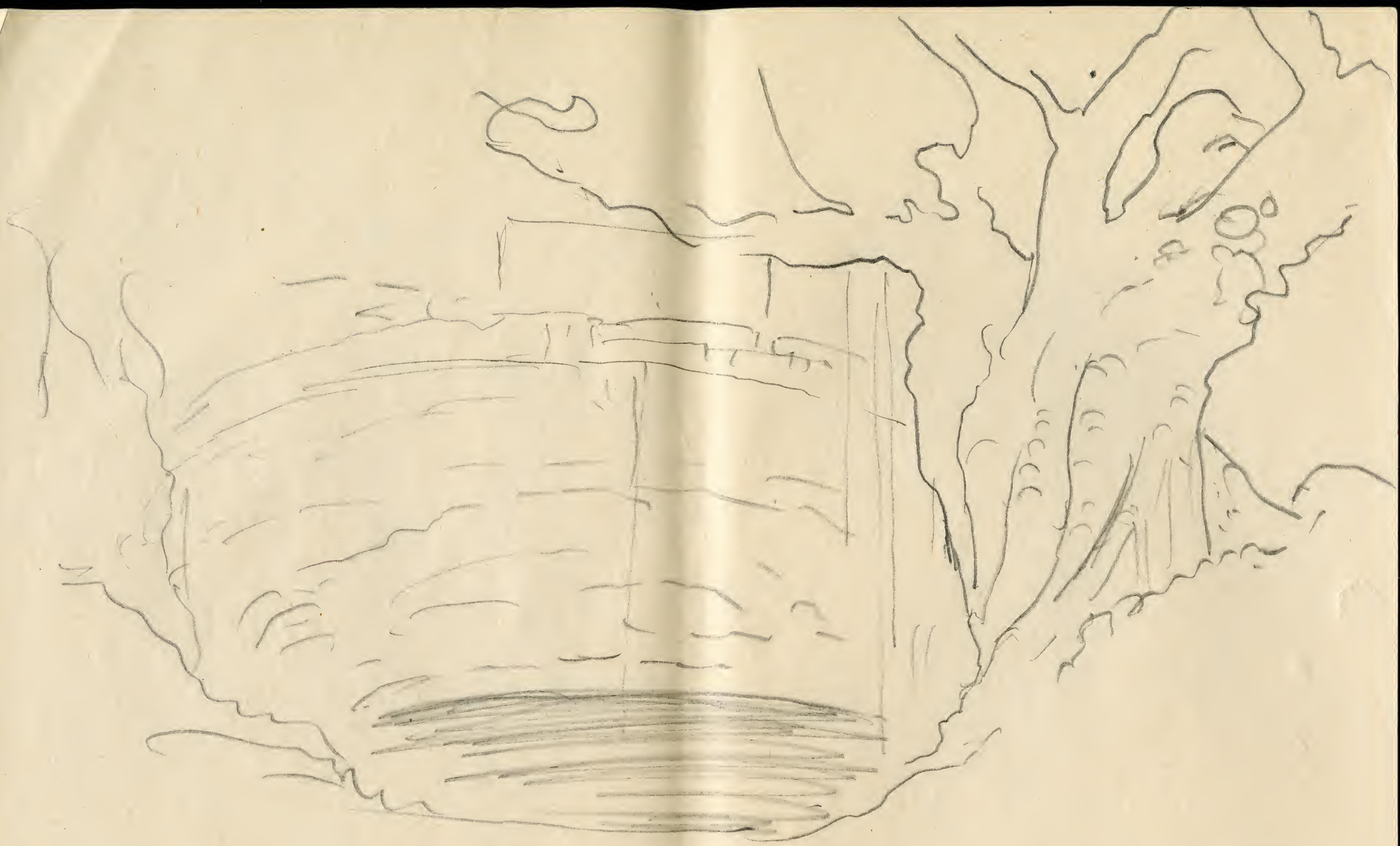
In well 69'.

60 ft depth to water

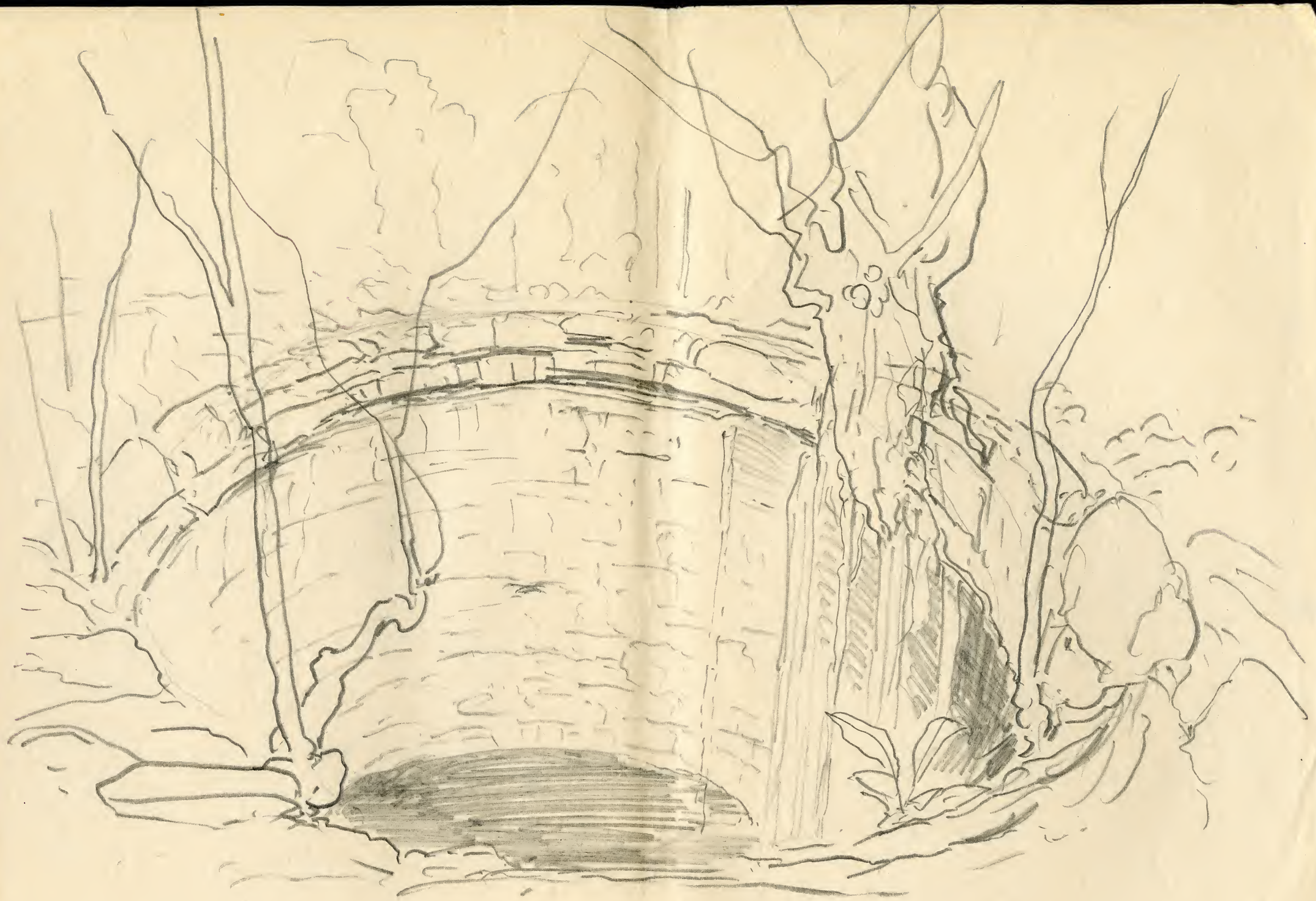


Water area prob.
more oval

The great well
No number 59 of the
Chicken Ranches,



great well
1½ miles S.S. of the
Chicken. Reindeer



Greatwell Estate
1/2 miles SE. of Rowde
Chalcot

Senoles

Cuevas